

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
CHICAGO, ROCK ISLAND & PACIFIC RAILWAY

LIBERAL, KANS.

OCTOBER 2, 1937.

INVESTIGATION NO. 2202

SUMMARY

Inv-2202

Railroad: Chicago, Rock Island & Pacific

Date: October 2, 1937.

Location: Liberal, Kans.

Kind of accident: Rear-end collision

Trains involved: Freight : freight

Train numbers: First 92 : Second 92

Engine numbers: 5064 : 5030

Consist: 77 cars, : 52 cars, caboose
caboose

Speed: Standing : 5-6 m.p.h.

Track: Tangent; 0.4 percent descending grade.

Weather: Clear and dark

Time: 7:40 p.m.

Casualties: 5 injured

Cause: Failure of Second 92 to approach and
enter yard limits under proper control;
failure of First 92 to provide flag
protection in yard limits when carrying
passengers.

Inv-2202

November 10, 1937.

To the Commission:

On October 2, 1937, there was a rear-end collision between two freight trains on the Chicago, Rock Island & Pacific Railway at Liberal, Kans., which resulted in the injury of five live-stock caretakers.

Location and method of operation

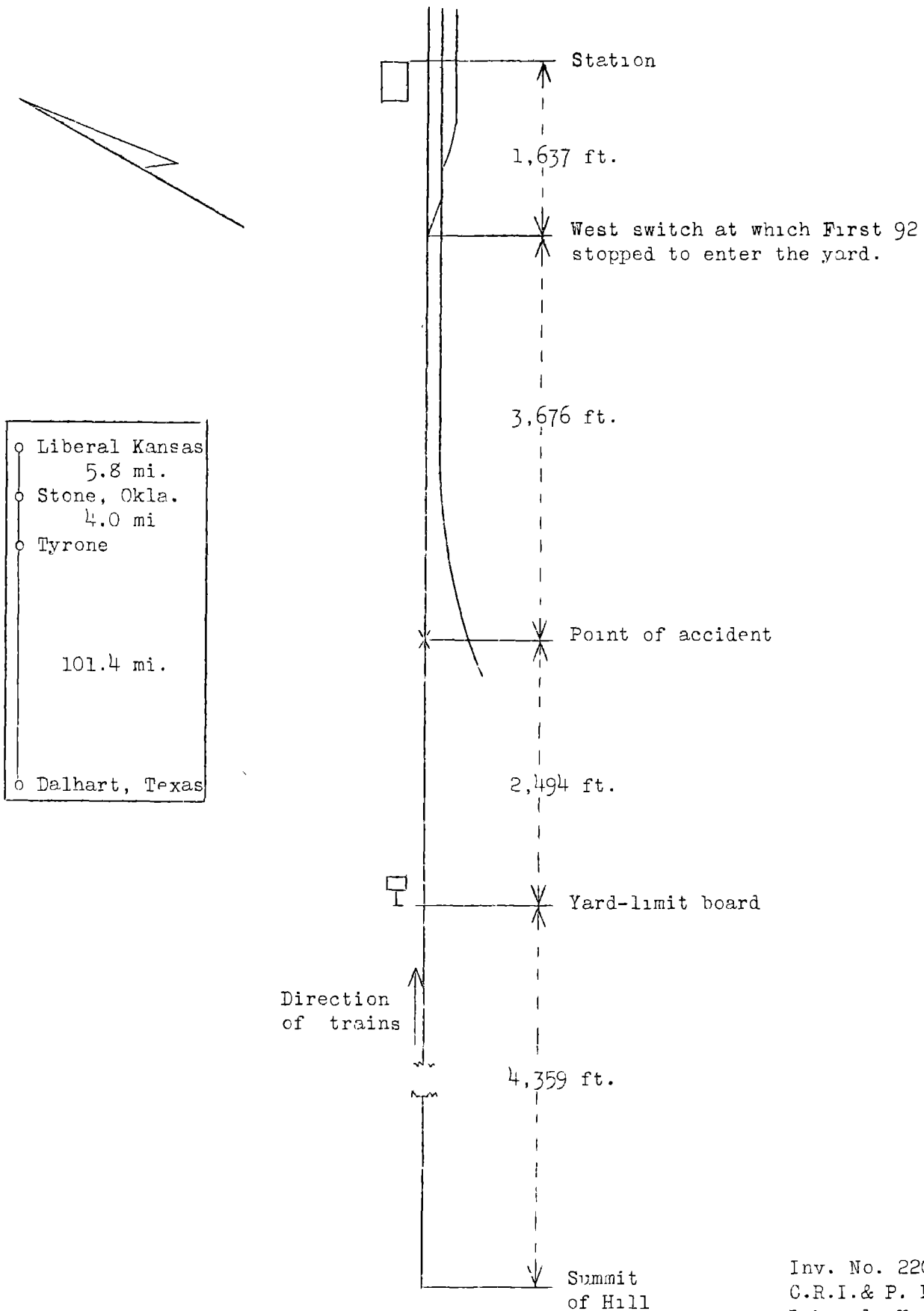
This accident occurred on Subdivision 41 of the Panhandle Division which extends between Liberal, Kans., and Dalhart, Tex., a distance of 111.2 miles. This is a single-track line over which trains are operated by timetable and train orders, no form of block-signal system being in use. The accident occurred within yard limits on the main track at a point 2,494 feet east of the west yard-limit board and 3,676 feet west of the west switch leading to the yard. Approaching from the west the track is tangent for several miles to the point of accident and for some distance beyond. The grade for east-bound trains is generally descending for a distance of 6,853 feet to the point of accident, the maximum gradient being 0.8 percent; at the point of accident it is 0.4 percent. The maximum speed allowed for freight trains on this subdivision is 45 miles per hour.

The weather was clear and it was dark at the time of the accident, which occurred about 7:40 p.m.

Description

Train First 92, an east-bound second-class freight train, consisted of 77 cars and a caboose, hauled by engine 5064, and was in charge of Conductor Hiatt and Engineman Arford. This train left Dalhart at 3 p.m., according to the train sheet, 2 hours 10 minutes late, passed Tyrone, Okla., the last open telegraph office, 9.8 miles from Liberal, at 7:20 p.m., 2 hours 7 minutes late, and stopped at the west switch of Liberal yard about 7:38 p.m.; while standing there preparing to head into the yard the rear end was struck by Train Second 92.

Train Second 92, an east-bound second-class freight train, consisted of 52 cars and a caboose, hauled by engine 5030, and was in charge of Conductor Storey and Engineman Parkey. This train left Dalhart at 5 p.m., according to the train sheet, 4 hours 10 minutes late, passed Tyrone at 7:30 p.m., 2 hours 17 minutes late, and struck the rear end of Train First 92 while traveling at a speed estimated to have been 5 or 6 miles per hour.



Inv. No. 2202
C.R.I. & P. Ry
Liberal, Kans
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The engine of Second 92 telescoped the caboose of First 92, demolishing it and causing slight damage to the car ahead of it. The caboose was derailed and the flange of one wheel of the rear truck of the rear car was on the ball of the rail. Engine 5030 sustained only slight damage; the engine truck wheels were raised about 8 inches above the rail and the flanges of the driving wheels on the left side were on the ball of the rail. The stock caretakers injured were in the caboose of First 92.

Summary of evidence

Conductor Hiatt, of First 92, stated that on approaching Tyrone he thought he saw the headlight of Second 92 about 6 miles to the rear. His train passed the order board at Tyrone at about 7:20 p.m., traveling at a speed of about 40 miles per hour, and as the caboose tipped over the hill west of Liberal the speed was 30 or 35 miles per hour and was then gradually reduced until they came to a stop. About the time the caboose was at the yard-limit board he finished the delay reports; it was then 7:37 p.m. About 7:38, or a little later, Flagman Spivey descended from the cupola, saying that he had seen the reflection of a headlight; the flagman immediately grabbed a fusee and ran out on the back platform where he lighted it, picked up red and white lanterns and jumped off, all in the space of a very few seconds. Conductor Hiatt said that the following train came down the hill at a high rate of speed and was between 1/2 and 3/4 mile distant when the flagman's signal was answered; realizing that it was getting close, he called to the caretakers to jump off and he also jumped. He estimated the speed of the following train to have been about 6 miles per hour at the time of the accident, and he thought his own train had been standing about 20 seconds when it was struck. Conductor Hiatt stated that the marker lights were burning properly at the time of the accident, and that no fusees were thrown off on approaching Liberal as the view was not obstructed and he thought that there was plenty of time to clear the main track before the second section would overtake his train. It was his understanding that under rule 93 it was not necessary to protect against second, third-class and extra trains except when carrying passengers, and he understood also that rule 99 would not apply within yard limits except when carrying passengers. His train, however, was carrying passengers.

The statement of Flagman Spivey, of First 92, corroborated that of the conductor concerning events up to the appearance of Second 92 at the top of the hill west of Liberal. When he reached the rear platform and lit a fusee the speed of his train was about 18 or 20 miles per hour, too fast for him to jump off, but the speed was reduced rapidly and when it was about 10 or 12 miles per hour he dismounted. He had been giving stop signals

before his train stopped and as he struck the ground the engine-man of the following train answered his flag, he ran back and was between 8 and 12 car lengths from the rear of his train when engine 5030 passed him. He was unable to estimate the speed of that train, but knew that the air brakes were applied as fire was flying from the driving wheels. He thought the following train was about $1\frac{1}{2}$ miles distant when he first saw it, and by the time he had the fusee lighted the gap between the two trains had been closed considerably so that he thought it best to hold the fusee rather than take a chance of it being put out by its impact with the ground. He stated that it is not customary to provide flag protection within yard limits except when trains are carrying passengers. He did not hear the engineman whistle out a flag, and would not have heard it as he was busy getting ready to go back to flag.

Engineman Arford, of First 92, stated that his engine passed Tyrone Station between 7:19 and 7:20 p.m. On approaching the yard limit-board at Liberal he applied the air brakes, gradually reducing the speed of his train and stopping it within 200 feet of the west switch. Immediately after stopping he attempted to release the brakes but finding that he was unable to do so he whistled out a flag and then discovered that the brake pipe was broken and that the rear end of his train had been struck by the following train. He did not think that the speed had been reduced sufficiently to permit the flagman to get off safely when the caboose passed the yard-limit board.

The statements of Firemen Clinkenbeard and Head Brakeman Shewbart, of First 92, brought out nothing additional of importance.

Engineman Parkey, of Second 92, stated that the air brakes were tested before leaving Dalhart and functioned satisfactorily en route. Before leaving Dalhart he agreed with his conductor that they would go to Liberal for west-bound passenger train No. 43, scheduled to leave that point at 7:45 p.m. Engineman Parkey realized that the time was short and that it would probably be necessary to exceed the speed restrictions to make it but he thought that the only place that the speed limit was exceeded was going down the Texhoma hill. They approached Tyrone at 7:26 p.m. and passed the east switch at Stone, 5.8 miles from Liberal, at 7:32 p.m.; at both of these places he received a proceed signal from the rear end. Approaching Stone he consulted with his fireman and head brakeman concerning the possibility of reaching Liberal in time to clear No. 43; the head brakeman said he thought they could make the switch, but the

firemen protested on the grounds that the time was too close. Engineman Parkey checked his time frequently after leaving Stone and as he tipped over the hill west of Liberal the speed was about 45 miles per hour. From this point he saw a red light about 3/4 mile distant and he made a full service application of the air brakes and then placed the brake valve in emergency position, but although he did not get the full effect of the emergency application the speed had been reduced to 5 or 6 miles per hour when the collision occurred. His reason for not making an emergency application immediately was that he thought there was a greater distance between his engine and the marker lights of the caboos ahead than was actually the case, and, too, he thought the lights were on the wye. The fireman saw the lights about the time he did. He saw the flagman giving stop signals with a fusee and he answered when about 15 car lengths from the caboos; he thought the flagman was about 1/2 pole length from the caboos when the engine passed him. Engineman Parkey was thoroughly familiar with the rules and realized that he should have entered the yard limits at restricted speed.

The statements of Fireman Rich of Second 92 practically corroborated those of the engineman. He was on his seatbox looking ahead when he first saw what appeared to be a red lantern between 800 and 1,000 feet distant; he then saw a burning fusee but did not see the marker lights on the caboos until his engine was less than 800 feet from the rear of the train. He thought his train was going to stop before striking the caboos, but the slack ran in and kept the speed up to 5 or 6 miles per hour at the time of collision.

Head Brakeman Bell, of Second 92, stated that he knew that his train should be clear at Liberal at 7:40 p.m. but figured that as they would reach the west switch at Liberal about 7:39 or 7:40 p.m. he could protect his train against No. 43. He was getting his flagging equipment ready when he heard the heavy application of the air brakes, and sensing that something was wrong he looked ahead and saw a red fusee and two marker lights beyond it, but was unable to tell the distance between the fusee and lights as the fusee blinded him. He thought his train was about 35 or 40 car lengths from the lights when he first saw them. He jumped off on the right side of the engine when it was within 10 feet of the flagman, but was unable to say how far back the flagman was from the caboos at that time. Head Brakeman Bell further stated that it is necessary to exceed the maximum speed in order to get over the road, and it is not uncommon to make the kind of a run as on the day of the accident where there are no delays, although it is not often possible to go from Dalhart to Liberal in 2 hours 40 minutes. In fact, it is very rarely that they have a chance to get over the road in that time.

Conductor Storey, of Second 92, stated that while the maximum speed of 45 miles per hour was exceeded at times en route, he did not consider it sufficiently excessive to arouse his concern. When talking with the engineman at Dalhart relative to meeting No. 43 at Liberal, he had said that they would have to keep going to make it, and these remarks may have induced the engineman to operate the train at a higher rate of speed than usual. A stop was made at Stratford where a message was received from the dispatcher stating that he would have an operator on duty at either Optima or Tyrone and this led the conductor to believe that the dispatcher was figuring on giving his train clearing time at Liberal for No. 43, as that was all they needed. The next stop was at Goodwell for water and oil which consumed about 5 minutes, and the speed was then reduced at only two other points en route. When they passed Tyrone at 7:27 p.m. the train order board was clear; they passed the east switch at Stone at 7:32 p.m. He decided to proceed to Liberal as he thought they could make the west switch there by 7:40 p.m., which would give the head brakeman 5 minutes to protect against No. 43. They went over the crossing just west of the top of the hill at 7:38 p.m. He felt a service application of the air brakes about the time the caboose tipped over the hill and the train stopped shortly thereafter.

Agent-Operator Lindsey, at Tyrone, stated that his regular hours of duty are from 8:30 a.m. to 5:30 p.m., but on the day of the accident the dispatcher instructed him to return to duty and work from 7 to 9:30 p.m.; this, he learned later, was for the purpose of helping First and Second 92 against Nos. 43 and 3. Train order 54 requiring No. 43 to wait at Liberal until 7:55 p.m. for First 92 was made complete at 7:11 p.m. and delivered to the crew of First 92 as it passed at a speed of about 15 miles per hour. When about half of the train had passed it was 7:19:30 p.m. and as his watch was 30 seconds slower than the station clock he reported it by at 7:20 p.m. The dispatcher then asked him if he could see Second 92, and he answered that he could see the headlight which appeared to be at Hooker. The dispatcher then started to put out train order 59 requiring No. 43 to wait at Stone until 8:01 p.m. for Second 92, but before it was completed the dispatcher discussed with the operator at Liberal the advisability of moving Second 92 into Liberal for No. 43. At about 7:28 while they were still discussing the matter, Operator Lindsey heard the whistle of Second 92, and without looking up broke into the conversation between the dispatcher and the operator at Liberal and told the dispatcher that Second 92 was coming. The dispatcher replied that it was all right to clear them, that they could go to Stone. Operator Lindsey cleared the train order board at 7:30 p.m. and by 7:31 p.m. the caboose of Second 92 had passed, and he reported this train by at 7:30 p.m. He estimated the speed of this train at about 60 miles per hour, and stated that the average speed of freight trains passing Tyrone is between 45 and 50 miles per hour.

Dispatcher Farrell stated that when he asked the operator at Tyrone about Second 92, the operator said they were just out of Hooker and would not be at Tyrone by 7:30; about this time he glanced at his watch and it was 7:28 p.m. He then told the operators at Liberal and Tyrone to destroy train order 59, as he figured Second 92 would go to Stone for No. 43. The operator at Tyrone reported First 92 by at 7:20 p.m. and Second 92 at 7:30 p.m. After the accident, the dispatcher checked the time of his clock with the clock at Tyrone and found that the clock at Tyrone was 30 seconds slower than the clock in his office. Dispatcher Farrell further stated that he was not certain that trains were being spaced 10 minutes apart.

Discussion

Rule 93 provides in part that unless the main track is seen or known to be clear, second and third class and extra trains must move within yard limits at restricted speed. In case of collision, responsibility rests with moving train or engine. Trains carrying passengers must be protected at all times. The evidence indicates that in endeavoring to clear No. 43, a west-bound passenger train, at Liberal Second 92 was being operated at a high rate of speed approaching the yard limits at that point. When the rear end of First 92 was first seen about 3/4 mile distant, the engineman made only a full service application of the air brakes as he misjudged the distance and thought the lights were on another track, so that when he did place the brake valve in emergency position he was unable to get the emergency effect. The crew was fully aware that their time was too short to reach Liberal and properly clear for No. 43 which was scheduled to leave there at 7:45 p.m., but they figured that they could make the west switch by 7:40 p.m., and would then have 5 minutes to protect against the passenger train.

According to the train sheet, Second 92 passed Tyrone at 7:30 p.m., which would give that train only 10 minutes to travel the 9.5 miles to the switch at Liberal, and the Tyrone operator stated that the train passed there at a speed of about 60 miles per hour. The members of the crew of Second 92, however, stated their train passed Tyrone at 7:27 p.m. and Stone, 4 miles beyond, at 7:32 p.m. Regardless of this discrepancy in times there is no doubt that the train was being operated at a high rate of speed and the fact that only 2 hours 40 minutes was used in traveling the 111 miles between Dalhart and Liberal indicates a probability that the maximum speed limit of 45 miles per hour was materially exceeded en route.

Train First 92 was carrying passengers and it was the duty of Flagman Spivey to provide adequate protection even though his train was within yard limits. He was aware that a second section was following his train, yet he made no preparation to

protect it until the headlight of the approaching train appeared at the summit of the hill to the rear, at which time he was in the cupola. He then lighted a fusee and was not able to get back more than 3 to 12 car lengths from the rear of his train before the approaching engine passed him. The conductor also failed in his duty in not seeing that the flagman provided the proper rear end protection. The first warning received by engine crew of Second 92 was when the markers or red lantern on the rear of the train came into view, and had a fusee been displayed prior to that time it is possible that the engineman could have brought his train to a stop before the accident occurred, as the speed had been reduced to 5 or 6 miles per hour at the time of the collision.

The officials of this railroad advise that automatic block signals have been authorized between Pratt, Kans., and Tucumcari, N. M., which includes the territory in which the accident occurred, and the work of installing these signals will soon be in progress.

Conclusion

This accident was caused by the failure of Second 92 to be operated under proper control when approaching and entering yard limits; a contributing cause was the failure of First 92 to provide adequate flag protection within yard limits when carrying passengers.

Respectfully submitted,

W. J. PATTERSON,

Director.